Research Paper – Araştırma Makalesi

DETERMINATION OF CHALLENGES AND FEAR OF COVID-19 FOR PEDIATRIC NURSES DURING THE PANDEMIC PROCESS

PEDİATRİ HEMŞİRELERİNİN COVID-19 KORKUSU VE PANDEMİ SÜRECİNDE YAŞADIKLARI ZORLUKLARIN BELİRLENMESİ

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Özet

Bu araştırma, pediatri hemşirelerinin COVID-19 korkusu ve pandemi sürecinde yaşadıkları zorlukların belirlenmesi amacıyla yapılmıştır. Bu araştırma, kesitsel ve tanımlayıcı tipte bir çalışma olarak planlanmıştır. Araştırma verileri "Pediatri Hemşirelerinin COVID-19 Pandemi Sürecinde Yaşadıkları Zorlukları Değerlendirme Formu" ve "COVID-19 Korku Ölçeği" kullanılarak toplanmıştır. Araştırma, Türkiyede bir il merkezinde çalışan 154 pediatri hemşiresi ile yapılmıştır. Araştırmaya dahil olan hemşirelerin %83,7'sinin kişisel koruyucu ekipmana (KKE) sahip olma konusunda sıkıntı yaşadıkları ve KKE içinde aralıksız 5,61±5,99 saat çalıştıkları saptanmıştır. Hemşirelerin COVID-19 korkusu ölçeğinin toplam puan ortalaması 22,88±5,10'dır. Hemşirelerin COVID-19 korkusunun yüksek olduğu ve bu durumun hemşirelerde; huzursuzluk, stress, kaygı gibi psikolijk problemler ile besin ve sıvı alımında azalma, dermatolojik problemler vb. fizyolojik problemlere yol açtığı belirlenmiştir.

Anahtar Kelimeler: COVID-19 Korkusu, Kaygı, Pediatri Hemşireliği, Zorluk.

Abstract

This study was carried out to determine the challenges and fear of COVID-19 among pediatric nurses during the pandemic. It was planned as a cross-sectional and descriptive-type study. The study's data were collected using the "Evaluation Form for the Challenges experienced by Pediatric Nurses during COVID-19 Pandemic Period" and the "COVID-19 Fear Scale". The study was conducted with 154 pediatric nurses working in a city center in Turkey. It was found that 83.7% of the nurses included in the study experienced difficulties in finding personal protective equipment (PPE) and worked for 5.61±5.99 hours inside PPE uninterruptedly. The mean total score of the nurses on the COVID-19 fear scale was found to be 22.88±5.10. It was determined that fear of COVID-19 was high among the nurses and this situation resulted in psychological problems such as restlessness, stress, and anxiety and physiological problems such as a decrease in nutrition and liquid intake and dermatological problems.

Keywords: COVID-19 affear, Anxiety, Pediatric Nursing, Challenge.

1. INTRODUCTION

In December 2019, many cases of pneumonia of unknown cause and unresponsive to treatment occurred in China. The disease has spread rapidly. The authorities in China announced that they detected a new virus and called this virus as "2019-nCoV". World Health Organization (WHO) named the abbreviation of Coronavirus 2019 as COVID-19 and its factor as SARS-CoV-2 virus. The disease has spread from human to human; and WHO announced it as a pandemic on March 11, 2020 due to its transmission all over the world (Dong et al.,2020, pp.1-12; Hong et al., 2020, pp. 131-132; Ludvigsson et al., 2020, pp.1088-95; WHO, 2020).

Nurses are involved in the center of COVID-19 prevention and intervention efforts. There are more than 20 million nurses working, and nursing is the biggest healthcare occupation in the world. Nurses are at the frontline in the care of complex COVID-19 cases requiring hospitalization. Individuals with a chronic disease or previous illness are the most risky groups for COVID-19 associated mortality and morbidity; and nurses have a critical importance in the care and clinical management of these patients (Choi and et al., 2020, pp. 1486-87).

Along with the pandemic conditions, WHO determined 2020 as the "Nurse Year" and recommended a campaign called "Nursing Now" worldwide in partnership with the International Council of Nursing (ICN) and professional organizations in various countries. This campaign considers the central role of nurses in understanding and implementing health policies. Besides, it also aims to underline the role of nursing in order to attain health goals adopted by the member states of the United Nations besides promoting the status of nurses. For that reason, the value of the nursing profession has become more prominent during the pandemic (Góes, Silva, and Santos, 2020, pp.1-9). In the COVID-19 pandemic, pediatric nurses while doing basic responsibilities such as observing the rights of the child, improving health and minimizing the complications, supporting the growth and development of the child, and maintaining medical care with a family-centered care approach, have experienced both fear and many difficulties. The fear and difficulties experienced by nurses stem from the fact that COVID-19 is a contagious and deadly disease. It is important to identify the fears and difficulties experienced by pediatric nurses against the risk of the recurrence of such emergencies and to produce effective solutions.

This cross-sectional and descriptive study was carried out to determine COVID-19 fear and difficulties experienced by pediatric nurses during the pandemic period. The population of the study consisted of 500 nurses who were working in the pediatric clinics of the hospitals located in a city center in Turkey. 154 nurses, who were approved to participate and filled out the forms completely, constituted the sample of the study. Nurses who did not approve to participate or left the forms incomplete were excluded.

2. METHODS

Data of the study were collected between December 2020 and March 2021. A Sociodemographic Data Form, Evaluation Form for the Challenges experienced by the Pediatric Nurses during COVID-19 Pandemic Period and COVID-19 Fear Scale were used to collect data. The Evaluation Form for the Challenges experienced by the Pediatric Nurses

during COVID-19 Pandemic Period consisted of 35 questions (Atay and Uzen Cura, 2020, pp.12-16; Cai et al., 2020, pp.132-137; Lai et al., 2020, pp.1-12; Liu ve et al., 2020, pp.757-63; Pappa et al., 2020, pp.901-7; Sun et al., 2020, pp.592-8). The final version of this form, which was prepared by the researchers, was given after taking expert opinions. COVID-19 Fear Scale is a 5-Likert type scale including 7 items and its validity and reliability study was conducted by Bakioglu, Korkmaz and Ercan. The scores are taken from this scale range between 7 and 35. A high score taken on the scale means experiencing a high fear of coronavirus. Permission for use was obtained from the authors of the scale (Bakioglu, Korkmaz and Ercan, 2020, pp. 2369-82). The data collection process started with the nurses working in the pediatric clinics of the hospitals in the city center after taking ethics committee approval. During data collection, eligible nurses were sent an explanatory text including information about the study together with Sociodemographic Data Form, Evaluation Form for the Challenges experienced by the Pediatric Nurses during COVID-19 Pandemic Period and COVID-19 Fear Scale which were created on Google forms via e-mail. Those, who approved to participate in the study and filled out the forms completely, were enrolled.

2.1. Data analysis

SPSS 22.00 package program was used to analyze data obtained throughout the study. Descriptive statistics of data were performed by frequency and percentage distribution based on the demographic characteristics of the nurses. Moreover, the Kolmogorov-Smirnov test, t-test, and chi-square test were used to analyze data.

2.2. Ethics approval

This study was approved by the Ege University Scientific Research and Publication Ethics Committee where the study was conducted (IRB date-number: 12.11.2020-E.293421).

3. RESULTS

Almost all nurses who participated in the study (n:154, 69.6%) were females; and the mean age was 30.94 ± 6.92 years old. More than half of the participants were married (54.1%) and their education level was undergraduate (76.7%). 71.7% of the nurses had a core family and 54.1% of them could not meet their parents in person. More than half of the nurses (71.1%) experienced social exclusion due to their risk of transmitting COVID-19 during the pandemic period. While 64.8% of the nurses were working in a university hospital, 46.5% of them were working in the intensive care clinic of the hospital. The clinic where 23.9% of the participants were working was not changed during the pandemic period (Table 1).

Table-1: Sociodemographic Data of the Participants

	n	%	X ± SD
Sex			
Female	154	96.6	
Male	5	3.1	
Age			30.94 ± 6.92
Marital status			
Single	73	45.9	
Married	86	54.1	
Education status			
High school	3	1.9	
Associate degree	3	1.9	
Undergraduate	122	76.7	
Postgraduate	31	19.5	
Family type			
Alone	32	20.1	
Single parent	9	5.7	
Core family	114	71.7	
Large family	4	2.5	
Status of having a child			
Yes	64	40.3	
No	95	59.7	
Status of meeting with family members during COVID-19 Pandemic			
Yes	86	54.1	
No	73	45.9	
Status of experiencing social exclusion due to COVID-19 Pandemic			
Yes	55	34.6	
No	46	28.9	
Occasionally	58	36.5	
Current institution			
Public Hospital	56	35.2	
University Hospital	103	64.8	
Status of having a chronic disease			
Yes	27	17	
No	132	83	
Current unit of the nurses			
Covid-19 Service	18	11.3	
Emergency Service	23	14.5	
Intensive Care Clinic	74	46.5	
Inpatient Clinics	44	27.7	
Status of having a change in the currently working clinic			
Yes	38	23.9	
No	121	76.1	

83.7% of the nurses included in the study experienced problems with having personal protective equipment (PPE). These problems were found to be the lack of an adequate number in 14.5%, adequate quality in 11.3%, and both adequate number and quality PPE in 57.9%. 57.9% of the nurses were required to buy their own PPE. The uninterrupted working times of the nurses inside PPE was 5.61±5.99 hours. While this duration was 4.14±5.77 hours for the nurses working in the public hospital, it was 6.40±5.98 hours for those who were working in the university hospital. COVID-19 patients were provided care in the clinics where 76.1% of the nurses were working, and 71.1% provided care to the patients diagnosed with COVID-19 themselves. In the case of chaving a chance to make a choice, 44% of the nurses stated that they did not prefer providing care to patients with COVID-19. Almost all nurses in the study experienced a fear of COVID-19 infection for themselves (96.2%), their families (99.4%), and their colleagues (96.9%). More than half of the nurses experienced a fear of death due to COVID-19. Problems experienced by the nurses due to the use of PPE included psychological

issues such as restlessness, distress, and anxiety at 87.4%, fluid loss at 76.1%, decrease in liquid intake at 73%, decrease in food intake at 57.8%, gastrointestinal system-related problems at 57.9% and dermatological problems at 82.4%. Besides, more than half of the nurses (57.8%) indicated that there were organizational deficits in the management of pandemic in the hospital where they were working (Table 2).

Table 2: The Problems Experienced by the Nurses due to COVID-19

		n	%	X ± SD
Status of Experiencing Problems in Having Access to Adequate Number and Quality PPE				
Yes	Number	23	14.5	
	Quality	18	11.3	
	Both Number and Quality	92	57.9	
No		26	16.4	
Status of Buying their own PPE				
Yes		92	57.9	
No		67	42.1	
Uninterrupted Working Time/Hours with PPE				5.61±5.99
Public Hospital				4.14±5.77
University Hospital				6.40±5.98
Hospitalization of COVID-19 Patients in the Current Unit of Nurses				
Yes		121	76.1	
No		38	23.9	
Status of Providing Care to Patients with COVID-19 Diagnosis				
Yes		113	71.1	
No		46	28.9	
Status of not Preferring to Provide Care to Patients with COVID-19				
Yes		70	44.0	
No		88	55.3	
Status of Experiencing Fear of Getting Infected with COVID-19				
Yes		153	96.2	
No		6	3.8	
Status of Experiencing Fear of Death due to COVID-19				
Yes		54	34.0	
No		49	30.8	
Occasionally		56	35.2	
Status of Experiencing Fear of COVID-19 Infection to Your Family				
Yes		158	99.4	
No		1	0.6	
Status of Experiencing Fear of COVID-19 Infection to Your Colleagues				
Yes		137	96.9	
No		5	3.1	
Status of Experiencing Psychological Problems due to the use of PPE (such as restlessness, distress, fear, feeling of anxiety)				
Yes		139	87.4	
No		20	12.6	
Status of Experiencing Fluid Loss due to the Use of PPE				
Yes		83	52.2	
No		38	23.9	
Occasionally		38	23.9	
Status of Experiencing a Decrease in Liquid Intake due to Long-term Use of PPE				

	Yes	83	52.2
	No	43	27.0
	Occasionally	33	20.8
Status of Experiencing a Decrease in Food Intake due to Long-term Use of PPE			
	Yes	60	37.7
	No	67	42.1
	Occasionally	32	20.1
Status of Experiencing Gastrointestinal System-related Problems due to Pandemic			
	Yes	52	32.7
	No	67	42.1
	Occasionally	40	25.2
Status of Experiencing Dermatological Problems due to Pandemic			
	Yes	120	75.5
	No	28	17.6
	Occasionally	11	6.9
Status of Experiencing Organizational Deficits for the Management of Pandemic in the Current Institution		91	57.2
	Yes	67	42.1
	No	1	0.6
	Occasionally		

The mean total score of the nurses from the COVID-19 Fear Scale was found to be 22.88±5.10. The high score on the scale indicates a high fear of coronavirus. Moreover, subscales showed that 76.1% of the nurses experienced a high fear of coronavirus, 91.2% were disturbed by thinking about coronavirus, 54.1% experienced fear of death due to coronavirus and 71.7% got nervous when they saw news or stories about coronavirus in the social media (Table 3).

Table 3: Findings Related to COVID-19 Fear Scale Sub-items and Mean Scores

		n	%	X ± SD (Min.-Max.)
I am very afraid of coronavirus (COVID-19)	Totally Disagree	0	0	
	Disagree	15	9.4	
	Undecided	23	14.5	
	Agree	8	53.5	
	Totally Agree	36	22.6	
Thinking about coronavirus is disturbing me.	Totally Disagree	0	0	
	Disagree	7	4.4	
	Undecided	7	4.4	
	Agree	100	62.9	
	Totally Agree	45	28.3	
My hands are sweating cold when I think about coronavirus.	Totally Disagree	27	17.0	
	Disagree	70	44.0	
	Undecided	38	23.9	
	Agree	15	9.4	
	Totally Agree	9	5.7	
I am afraid of dying due to coronavirus.	Totally Disagree	5	3.1	
	Disagree	30	18.9	
	Undecided	38	23.9	
	Agree	53	33.3	
	Totally Agree	33	20.8	
	Totally Disagree	3	1.9	
	Disagree	19	11.9	

I get nervous or anxious when I see stories and news about coronavirus in the social media.	Undecided	23	14.5
	Agree	77	48.4
	Totally Agree	37	23.3
	Totally Disagree	32	20.1
	Disagree	66	41.5
I can not sleep due to the fear of getting infected with coronavirus.	Undecided	36	22.6
	Agree	19	11.9
	Totally Agree	6	3.8
	Totally Disagree	21	13.2
	Disagree	59	37.1
My heart starts beating fast when I think about getting infected with coronavirus.	Undecided	29	18.2
	Agree	40	25.2
	Totally Agree	10	6.3
COVID-19 **Fear Scale Total Score**			22.88 ± 5.10 (11.00-35.00)

The correlations were checked between sociodemographic characteristics and COVID-19 Fear Scale. It was determined that the mean COVID-19 Fear Scale score of the nurses working in the university hospital was higher (23.87 ±4.79). A statistically significant difference was found between the nurses working in public and university hospitals in terms of mean Coronavirus (COVID-19) Fear Scale score (p=0.001). Moreover, the mean COVID-19 Fear Scale scores of the nurses included in the study were found to be significantly different based on their states of having a chronic disease (p=0.008), providing care to patients with COVID-19 (p=0.045) and experiencing fear of death due to COVID-19 (p<0.001) (Table 4).

Table 4: The Differences between COVID-19 Fear Scale Scores Based on Sociodemographic Characteristics

	COVID-19 **Fear Scale Mean Scores**	**p**
Mean Scores of the Nurses working in Public Hospital	21.05±5.17	
		0,001
Mean Scores of the Nurses working in the University Hospital	23.87±4.79	
Status of Having a Chronic Disease		
Yes	25.22±4.19	**0,008**
No	22±5.15	
Current Units of the Nurses		
Covid-19 Service	21.27±6.12	
Emergency Service	22.39±5.19	0,445
Intensive Care	23.06±4.58	
Inpatient Clinics	23.47±5.44	
Hospitalization of a Patient with COVID-19 in the Current Unit of the Nurses		
Yes	22.59±5.12	0,204
No	23.78±4.97	
Status of Providing Care to Patients with COVID-19		
Yes		**0,045**
No	22.36±4.91	
	24.15±5.37	
Status of Experiencing Fear of Death due to COVID-19		
Yes	25,92±4.46	**<0,001**
No	18.75±3.76	
Occasionally	23.55±4.29	

4. DISCUSSION

Nurses are among the healthcare professionals that are in the closest contact with the individuals diagnosed with COVID-19, and this situation revealed the risk of getting infected with coronavirus or becoming a carrier of coronavirus within the society for them. This risk carried by the nurses and their potential to affect community health, particularly including themselves and their families have made them experience biopsychosocial problems (Hartmann et al., 2021, pp. e1850-4).

During the COVID-19 pandemic, healthcare individuals have been perceived as a potential source of infection. Therefore, they have been seen the people threatening active social life and facing social exclusion. Argyriadis et al. (2021) found in their study aiming to examine social exclusion experienced be healthcare professionals during the pandemic that families of nurses approached them with fear and hesitation during face-to-face conversations and this made them feel bad. In addition, nurses stated that their close environment tended to avoid them (Argyriadis et al., 2021, pp.1-27). In the study by Sampaio et al., nurses were found to experience fear of getting infected with COVID-19 and infecting others (Sampaio, Sequeira and Teixeira, 2021, pp.1-7). Almost all nurses who participated in the study experienced fear of COVID-19 transmission to themselves (96.2%), their families (99.4%), and colleagues (96.9%). Therefore, 54.1% of the nurses did not meet their families in person during the pandemic. More than half of them (71.1%) experienced social exclusion due to their risk of transmitting COVID-19 during the pandemic.

In conclusion, healthcare professionals encountered discriminatory behaviors and social stigmatization in their families as well as their social environment and other healthcare professionals. It has been suggested that giving information messages to the public with the participation of all healthcare team members, who were negatively affected by the pandemic, might make a significant contribution to reducing social stigmatization experienced by nurses (Logie and Turan, 2020, pp.2003-6; Bhanot, Singh, Verma and Sharad, 2021, pp.1-11).

Health systems in all countries have been obliged to change their healthcare systems or bring new regulations for an effective struggle with coronavirus (Sun et al., 2020, pp.592-8). With the increase in COVID-19 cases, healthcare institutions converted their inpatient clinics into isolation clinics; and new pandemic clinics and hospitals were established. At the same time, all healthcare professionals, who were responsible for maintaining functionality of the system following this obligatory change occurred in the health systems, were expected to show adaptation rapidly (Celik et al., 2020, pp. 279–84; Catania et al., 2021, pp.404-11). Similarly, the clinics where 23.9% of the nurses were working, were found to be changed during the pandemic in our study.

The pre-requisite for contact with COVID-19 diagnosed/suspected patients is the training of healthcare staff for the prevention from standard infection and the implementation of infection control precautions (Ortega et al, 2020, pp.e105). These precautions include practices that protect healthcare staff from infection and prevent the transmission of the infection (such as hand washing) and PPE (such as protective clothing, gloves, and mask) (CDC, 2016). 83.7% of the nurses included in our study experienced problems in acquiring PPE with adequate number or quality. Therefore, 57.9% of them were required to buy their own

PPE. In a study examining the access of healthcare staff to PPE and infection risk and severity of COVID-19 in Germany, France, Italy, Spain, and America, COVID-19 symptom reporting risk was found to increase by 2.2-fold and 22-fold due to limited access to PPE (p<0,0001) (Kim et al, 2021, pp.1-9). Besides, the symptoms of the healthcare staff infected with COVID-19 were reported to last longer than 2 weeks as a result of the limited access to PPE (Kim et al, 2021, pp.1-9). In conclusion, it has been suggested that the supply of adequate numbers and quality PPE is inevitable in order to ensure the safety of nurses in their risky tasks during the pandemic period.

In the literature, it was reported that nurses working in high-risk clinics experienced headache, carbon dioxide retention, shortness of breath, pain, and communication difficulties as a result of using an N95 mask for an average of more than 4 hours a day, and their stress levels increased as the duration of their daily mask use increased depending on their symptoms (Ong et al., 2020, pp.864-7; Rebmann, Carrico and Wang, 2013, pp.1218-23). Uninterrupted working times of the nurses inside PPE were found to be 5.61±5.99 hours. In addition, the problems experienced by the nurses due to the use of PPE were found to be psychological problems such as restlessness, distress, and anxiety in 87.4%, liquid loss in 76.1%, decrease in fluid intake in 73%, a decrease in food intake in 57.8%, gastrointestinal system-related problems in 57.9% and dermatological problems in 82.4%. In the study by Cai et al., it was determined that one-third of the nurses experienced problems such as depression, anxiety, and sleeplessness during the pandemic. Moreover, nurses were reported to show significantly higher risks in terms of depression, anxiety, and post-traumatic stress disorder during the pandemic compared to stable periods (Cai et al., 2020, pp.132-137). Liu et al. also reported that nurses experienced fear and extreme stress. Nurses felt physical fatigue since they needed to wear PPE including double pair of gloves and goggles when they entered isolation rooms. In addition, working with PPE was indicated to cause nurses to sweat, to have goggles full of moisture from their own respiration, and to become over thirsty (Liu ve et al., 2020, pp.757-63). In the study by Atay and Uzen Cura (2020), the physiological problems, that were most commonly reported by the nurses due to the use of personal equipment for more than four hours, were indicated as sweating, redness in cheeks, mouth dryness and redness in the nasal bridge and ears due to the use of surgical mask (50.9%) or N95 (64.2%); dermatological problems in hands due to wearing gloves (73.9%), sweating and liquid loss due to wearing protective clothing (84.1%) and sight problems due to the use of goggles and face shield (47.9%) (Atay and Uzen Cura, 2020, pp.12-16). In line with these findings, it is suggested to organize the break times of the nurses by considering the duration of their work inside personal protective equipment.

It has been observed that the main feelings of the healthcare professionals occurred when they had contact with patients with COVID-19 during the pandemic were fear, anxiety, distress, anger, and insecurity (Argyriadis et al., 2021, pp.1-27); and it was common among the nurses working in high-risk clinics for long-term to experience psychological disorders such as post-traumatic stress disorder, depression, panic attack, delirium, and even suicidal thoughts (Lai et al., 2020, pp.1-12; Huerta-González et al., 2021, pp.1-17). In the study by Sampai et al., it was found that there was a correlation between fear (getting infected or infecting others) and depression, and their depressive symptoms occurred more as their fear became higher (Sampaio, Sequeira and Teixeira, 2021, pp.1-7). Similarly in our study, more than half of the nurses indicated that they experienced fear of death due to COVID-19. The mean score of the nurses on COVID-19 Fear Scale was found to be 22.88±5.10. A high score obtained from this scale means a high fear of coronavirus. Besides, the experiences reported by the nurses were fear of coronavirus by 76.1%, disturbance by thinking about coronavirus by 91.2%, fear of dying due to coronavirus by 54.1%, and getting nervous when they saw any news or stories

about coronavirus in social media by 71.7%. In the meta-analysis by Pappa et al. (2020) where they examined psychosocial problems experienced by the healthcare team during the COVID-19 period, it was found that depression and anxiety were seen in one of every five healthcare professionals, and sleeping disorders and/or sleeplessness were observed in four out of every ten employees; and the incidence of these symptoms was found to be higher among female healthcare professionals and nurses (Pappa et al., 2020, pp.901-7). More than half of the nurses (57.8%) in our study stated that they had organizational deficits in the management of the pandemic in the hospital where they were working; and it has been considered that the feeling of insecurity, which they experienced due to the inability to access personal protective equipment and to feel safe, increased their fear of death. However, it was determined that there were statistically significant differences between the mean scores of the nurses on the COVID-19 Fear Scale based on their states of having a chronic disease (p=0.008), providing care to patients with a diagnosis of COVID-19 (p=0.045) and experiencing fear of death due to COVID-19 (p<0.001).

5. CONCLUSION

Nurses at the frontline have been found to encounter bio-psychosocial challenges and fears during the pandemic. Hospital managers should give sufficient psychosocial support in order to provide adequate personal protective equipment for infection control, strengthen the communication between the nurses and management and promote the motivation of the nurses. Health screenings, including psychological screening, should be scheduled for the nurses working especially in high-risk clinics for a longer time.

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